



# **NAVAL POSTGRADUATE SCHOOL**

**MONTEREY, CALIFORNIA**

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## **MBA PROFESSIONAL REPORT**

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**Generation of the Arleigh Burke Destroyer Class Shipboard Phased  
Replacement Program List**

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**By: Matthew J. Fahner, and  
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December 2010**

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**GENERATION OF THE ARLEIGH BURKE DESTROYER CLASS SHIPBOARD  
PHASED REPLACEMENT PROGRAM LIST**

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Submitted in partial fulfillment of the requirements for the degree of

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# **GENERATION OF THE ARLEIGH BURKE DESTROYER CLASS SHIPBOARD PHASED REPLACEMENT PROGRAM LIST**

## **ABSTRACT**

This project is designed to provide a class-wide list of items for inclusion in the Phased Replacement Program (PRP) for each ship in the DDG 51 Arleigh Burke Class of Guided Missile Destroyers (DDGs). Current business practice involves the Supply Officer on each ship generating and maintaining an independent ship-specific list. This practice reduces the efficiency in the supply chain for these items by not maximizing the demand and ordering structure. The intention of the generation of a class-wide list is to improve the ordering periodicity and provide visibility for replenishment of these parts at the unit level for further consolidation at the class-wide level for oversight, management, and guidance.

Research was conducted using PRP lists gathered during ship visits, review of Naval Surface Forces' online financial management Continuous Monitoring Program, and cross referencing the data with Defense Logistics Agency's inventory management databases to validate the PRP items selected for inclusion in the class-wide list for items that should be tracked, stored, and managed on all DDGs. The resulting PRP list is meant to provide a baseline for ship Supply Departments to use and does not include every PRP item that ships must have.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

AEL	Allowance Equipage List
AFMP	Annual Financial Management Plan
APL	Allowance Parts List
CDR	Commander
CNSF	Commander Naval Surface Forces
CMP	Continuous Monitoring Program
CO	Commanding Officer
COMNAVSURFORINST	Commander Naval Surface Force Instruction
COSAL	Coordinated Shipboard Allowance Listing
DDG	Guided Missile Destroyer
DEPT	Department
DLA	Defense Logistics Agency
DZ	Dozen
EA	Each
EMRM	Equipment Maintenance Related Material
FEDLOG	Federal Catalog
GPC	Government Purchase Card
LCDR	Lieutenant Commander
LT	Lieutenant
LSC	Logistics Specialist Chief
LSSN	Logistics Specialist Seaman
NAS	Naval Air Station
NIIN	National Item Identification Number
OPTAR	Operational Target
QTR	Quarter
QTY	Quantity
PRP	Phase Replacement Program
RMA	Resource Management Assessment
SMC	Supply Management Certification
SURFSUP	Surface Supply Instruction Manual
TYCOM	Type Commander
U/I	Unit of Issue
UNREP	Underway Replenishment

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## **I. INTRODUCTION**

A Phase Replacement Program (PRP) for Arleigh Burke Guided Missile Destroyer (DDG 51) Class Ships consists of a list of consumable parts or equipment that have a high turnover rate or limited service life. These items require special attention due to their critical characteristics in support of the ships mission and sustainability. Examples of some PRP items include those items used in the mooring of the ship to the pier, deck operations gear, aviation operations gear, habitability, damage control, and medical department equipment. This project's scope is limited to PRP items that are primarily classified within the deck, aviation, and habitability areas onboard the ship. These items fit the criteria outlined by the Type Commander (TYCOM) as being PRP items, and they are items that, if overlooked, have detrimental operational consequences to the ship.

### **A. OBJECTIVE**

The objective of this project is to create a consolidated list of PRP parts needed by every ship in the DDG 51 class for the deck, aviation, and habitability areas. Creation of this list serves multiple purposes. The first purpose is to help increase the Supply Officers' awareness of what parts should be included on their individual unit PRP lists. This is accomplished because the list that resulted from this project provides a class-wide selection of PRP items. The Supply Officers can use this class-wide list as a baseline when generating their ship-specific list. The second purpose of this list is to provide the ability to create a centralized database of the PRP parts to be used as a basis for further study and research into making improvements in the usage, ordering, and replacement of the parts. Currently, such improvement research cannot readily be conducted because a list does not exist detailing what PRP parts are required for the ships in the DDG 51 class.

Creation of a definitive list of PRP parts to be used and managed by Supply Officers of the ships in the DDG 51 class has the future benefit of helping to streamline the supply chain for these parts. This benefit could be realized through a reduction in the demand volatility currently associated with last-minute orders. The number and impact

of last-minute orders could be reduced because the PRP list will increase the Supply Officers' awareness of the replacement periods for these parts. This list could also benefit the Navy by creating a mechanism to help ships in the DDG 51 class prevent PRP items from being used past their recommended service life. The quality of life and safety of the Sailors onboard each DDG would be improved by ensuring that they are not subjected to using PRP items that are not fit for use. This could be achieved through the creation of a more consistent ordering process that would result from a class-wide PRP list managed by each of the unit Supply Officers.

## **II. BACKGROUND**

### **A. GUIDANCE**

The Surface Supply Policy Manual (SURFSUP), COMNAVSURFORINST 4400.1, Chapter 7, Section 3, mandates that all DDG 51 class ships have a Phase Replacement Program. The SURFSUP further dictates that the PRP list will be included into the ship's Annual Financial Management Plan (AFMP) that the Supply Officers prepare and submit as part of the annual budget plans. The budget plan is submitted to the Commanding Officer after the Supply Officer receives inputs from the Department Heads for their respective departmental funding requirements. The current governing instructions provide no definitive or regulated method for DDGs to use when developing a PRP list. Poor financial management and accountability processes related to PRP list items result from this lack of specific guidance. These poor processes create a reactive-based culture for PRP item replacement and fail to relate deficiencies and shortfalls back to the ship's immediate and upper echelon supporting commands. It is imperative that the command leadership understands the importance of submitting comprehensive PRP list requirements so accurate cost and recording data of procured parts can be accounted for and analyzed (Commander Naval Surface Forces, 2006).

The SURFSUP provides guidance to ships to help them establish what are considered phase replacement items and to understand the importance of the Phase Replacement Program:

Piecemeal replacement often leads to inefficient expenditure of funds, unexpected shortages of gear, and lack of financial control. Establishment of a Phase Replacement Program will ensure better availability and financial control over consumable expenditures. Examples of phased replacement items are damage control equipment, mooring lines, fenders, life jackets, foul weather gear, UNREP gear, fuel hose, mattresses and bedding, vehicle lashing gear, special clothing, labor saving tools and equipment (i.e., sanders, grinders, and buffers), and shipboard furniture/furnishings. Any item that has limited service life and requires fairly frequent (one to three years) replacement can be included in this process. The dollar impact of replacement on ship's OPTAR

[Operation Target Budget] should be the governing factor in deciding whether this type of control is warranted. (Commander Naval Surface Forces, 2006, pp. 7–6)

The lack of PRP list specificity contained in the SURFSUP is complemented by the inspection procedures outlined in the Supply Management Certification (SMC) inspection instruction, COMNAVSURFOR INST 5040.1A. The inspection team is required to verify that the Supply Officer maintains a PRP list, but there is no requirement for the inspectors to verify the contents of the list. According to the Resource Management Assessment section of the SMC checklist, under line item RMA-026, “A Phased Replacement Program was established and incorporated into the AFMP” (Commander Naval Surface Forces, 2005, pp. 3–32). Three out of the 112 available points in that area of the inspection are awarded if PRP program items are included in the AFMP. No further requirement to validate the contents of the PRP list could be found. Therefore, the contents of the list are not verified for accuracy or usefulness because there is no definitive list recommended by the SURFSUP.

## **B. PRP LIST AND AFMP GENERATION**

In light of these disparities, the SURFSUP does provide some guidance for PRP list development in each shipboard department. Appendix A is provided in the SURFSUP as a recommended communication tool to be used internal to the ship by the Department Heads to document requirements for funding under the Phase Replacement Program. Each department’s phase replacement request is submitted to the Supply Officer after each Department Head consolidates and prioritizes their department’s phase replacement worksheets. The Supply Officer consolidates the departmental phase replacement requests based on priority. The ship-wide PRP list is then ranked against the other budget requests throughout the ship to determine what budgetary allocation amounts should go into the ship’s AFMP. The AFMP is then submitted to the Commanding Officer (CO) for final approval. When signed by the CO, the AFMP is sent electronically via the Continuous Monitoring Program (CMP) to the TYCOM. Erno and Snyder (2009) have suggested adding a Phase Replacement item category to CMP to help track the spending progress of the AFMP in regards to the Phase Replacement Program.

The TYCOM, as the source of funding for each ship, bases the budget allocations for the class from the class-wide inputs submitted by each ship via the AFMP data on the CMP. Each individual ship's actual funding allocation is also influenced by the ship's location, maintenance, and deployment cycle. Typically, ships in a maintenance cycle receive less funding than those preparing for deployment, and ships stationed overseas usually receive more funding due to higher operational tempo (Naval Supply Systems Command, 1997). The ship's AFMP data is used in conjunction with this operational and geographic information to help the TYCOM establish the amount of funding each DDG 51 class ship is allotted in the fiscal year.

### **C. SAMPLE AFMP**

A simplified example of a DDG AFMP that complies with the SURFSUP requirements is shown in Figure 1. From the figure, DDG XX (USS UNDERWAY) is programmed \$968,400.00 as shown for fiscal year 2011. This amount is divided between \$940,000 for Repairable (EMRM) and \$28,400 for Consumable (Other). The PRP list items are funded from the Consumables category of the AFMP. A special category titled Phase Replacement is established as a centralized line item in the Annual Financial Management Plan (AFMP) for commodities used by more than one department (e.g., safety boots, life jackets, mattresses) (Commander Naval Surface Forces, 2006).

Annual Financial Management Plan (AFMP)							
Repairable (EMRM)			FY11 QTR1	FY11 QTR2	FY11 QTR3	FY11 QTR4	FY11 TOTAL
	Combat Systems		\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 400,000
	Weapons		\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 160,000
	Engineering		\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 320,000
	Operations		\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 60,000
	TOTAL		\$ 235,000	\$ 235,000	\$ 235,000	\$ 235,000	\$ 940,000
Consumable (Other)			FY11 QTR1	FY11 QTR2	FY11 QTR3	FY11 QTR4	FY11 TOTAL
	Combat Systems		\$ 1,150	\$ 1,150	\$ 1,150	\$ 1,150	\$ 4,600
		Admin Supplies	\$ 400	\$ 400	\$ 400	\$ 400	\$ 1,600
		<b>Phased Replacement</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 3,000</b>
	Weapons		\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 6,000
		Admin Supplies	\$ 300	\$ 300	\$ 300	\$ 300	\$ 1,200
		Force Protection	\$ 700	\$ 700	\$ 700	\$ 700	\$ 2,800
		<b>Phased Replacement</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 2,000</b>
	Engineering		\$ 3,150	\$ 3,150	\$ 3,150	\$ 3,150	\$ 12,600
		Admin Supplies	\$ 400	\$ 400	\$ 400	\$ 400	\$ 1,600
		Damaged Control	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 8,000
		<b>Phased Replacement</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 750</b>	<b>\$ 3,000</b>
	Operations		\$ 1,300	\$ 1,300	\$ 1,300	\$ 1,300	\$ 5,200
		Admin Supplies	\$ 300	\$ 300	\$ 300	\$ 300	\$ 1,200
		<b>Phased Replacement</b>	<b>\$ 1,000</b>	<b>\$ 1,000</b>	<b>\$ 1,000</b>	<b>\$ 1,000</b>	<b>\$ 4,000</b>
	TOTAL		\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 28,400
	<b>TOTAL Phase Replacement COST</b>		<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 3,000</b>	<b>\$ 12,000</b>

Figure 1. USS UNDERWAY (DDG XX) AFMP (Simplified)

Supply Officers will use the funding received from the TYCOM as the ceiling from which to measure the departmental allocations to purchase all items for the ship to include PRP items. When the AFMP data provided via CMP is not an accurate representation of the needs for the ship, funding to each unit will be less than required and the ships submit augment requests to the TYCOM to fill needs as they arise. The result is a system where needs that are not identified early are either filled in a costly expedited manner as funds become available or they are moved into a subsequent fiscal year's AFMP. Such actions can be mitigated through the accurate and comprehensive identification and reporting of PRP requirements by each department onboard the ship.

The PRP lists of different ships within the DDG 51 class are expected to have differences for a variety of reasons. One reason is the significant age difference in hulls of the DDG 51 class. The first DDG 51 class ship was commissioned in 1991 dedicated to Admiral Arleigh Burke (U.S. Navy, 2010). The newest ship in this class is the USS Wayne E. Meyer (DDG 108), commissioned in October 2009 (NAVSEA, 2010). The replacement requirements for PRP parts for the older ships result from the longer service

life and the cyclic need of these parts to be continually replaced, as compared to the newer ships that are at the beginning of the phase replacement cycle for all of their PRP items.

#### **D. PREVIOUS RESEARCH**

Previous attempts to improve the PRP list generation for the DDG 51 class have been attempted. The Erno and Snyder (2009) research project was designed to improve the PRP item management for shipboard Damage Control items. Their project uncovered a need for a more comprehensive class-wide PRP list for the DDG 51 class to be generated before improvements to the Phase Replacement Program can be attempted in the future.

The research conducted for this current project did not identify any literature that analyzes the negative impacts on the Navy that result from the lack of a consolidated PRP list across any of the classes of Naval ships.

#### **E. NEGATIVE IMPACTS TO SUPPLY CHAIN**

A critical concern in the PRP item inventory management strategy is order variability. Unlike repair part replacement, PRP items are identified for replacement phases based on characteristics such as their usage and service life. Repair parts are replaced as needed when they fail. This difference contributes to the need for a forecasting method to be used for PRP item replacement. A lack of any consolidated class-wide PRP list for the DDG 51 class prevents a controlled ordering process for PRP items. This leads to expedited ordering of PRP parts when the need is finally identified. When this expedited ordering occurs, it sends inaccurate demand information to the suppliers and manufacturers of these PRP items. As Lee, Padmanabhan, and Whang stated, “Distorted information from one end of a supply chain to the other can lead to tremendous inefficiencies” (Lee, Padmanabhan, & Whang, 1997, p. 93). While civilian supply chains have been the primary focus of the published research, the concepts also apply to the Defense Department’s supply chain for PRP parts.

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### **III. METHODOLOGY AND PROCESS**

#### **A. FLEET CONCENTRATION AREA VISITS**

The researchers traveled to San Diego, California, to gather data for the project. The project's sponsors in the Comptroller's Office on the staff of the Commander Naval Surface Forces (CNSF) provided funding needed for the travel to San Diego. The full support given to the researchers by the Comptroller's staff and the Supply Officers on the two ships visited was crucial for the success of this project.

#### **B. STAGES OF LIST GENERATION**

The researchers took a structured approach to gather the necessary information and data for this project. Data collection sources were a combination of CMP and ship visits. The process selected for the generation of the class-wide PRP list was: start with data contained in CMP and gathered from ship visits and then validate and supplement this data with information contained in the Coordinated Shipboard Allowance Listing (COSAL), Federal Catalog (FEDLOG), web Federal Logistics Information System (webFLIS), and manufacturer websites. These sources were used as verification sources of the initial PRP list generated because they are the databases that contain the official information on parts used onboard Navy ships. A description given of the COSAL by Integrated Publishing follows:

The Coordinated Shipboard Allowance List (COSAL) is both a technical and supply document. It is technical in that nomenclature, operating characteristics, technical manuals, and so forth, are described in Allowance Parts Lists (APLs) and Allowance Equipage List (AELs). It is a supply document in that the COSAL provides a complete list of all parts required to operate and maintain the equipment installed at all ship/shore activities. (Integrated Publishing, 2007)

The PRP List generation was conducted in the following three stages: foundational stage, developmental stage and validation stage.

## **1. Foundational Stage**

The researchers traveled to San Diego in August of 2010. The trip's purpose was to gather information for the project from the project's sponsors. The researchers confirmed the scope of the project with the sponsors and received direction on what steps to take to collect and review pertinent data. The sponsors and the researchers also decided that deck, aviation and habitability items would be the most ideal areas to research for generation of the class-wide PRP list for the DDG 51 ships. Identification of these areas for list generation is consistent with the guidance in the SURFSUP detailing what PRP items are and observation that the use of these items is relatively standardized across the entire class.

The researchers gained access to CMP and learned that the database contained a variety of Supply Department information submitted from DDG 51 class ships (Commander Naval Surface Forces, 2010). The periodic financial reporting from the ship's unfunded listings became of particular importance to the researchers. This listing contained items that were identified and examined as PRP-type equipment that suited the scope of this project. The researchers were granted access to CMP by CNSF's Information Systems department.

The researchers also embarked two Destroyers moored at Naval Base San Diego, the USS Stockdale (DDG 106) and the USS Preble (USS 88) during the San Diego visit. Upon boarding the ships, the researchers were led to the perspective Supply Support Offices on board and gathered relevant supporting documentation and reports from the ships. These lists included their AFMP, current PRP list, Never-Out list, and departmental priority lists. The information contained on these documents provided a baseline example of the scope of current PRP list management by operational units and was used, like CMP, to cross-reference the data used to generate this project's PRP list.

## **2. Developmental Stage**

The researchers consolidated the data from the aforementioned sources consisting of data from two San Diego DDGs and CMP. The draft list was designed with the intention to contain a suggested way of "phasing" the items into the ship's AFMP over a

scheduled procurement cycle. The researchers developed a list that used columns to show a progression of quantity amounts needed over an annual period. This method can help the ships' Supply Departments to synchronize PRP item procurement at scheduled quarterly funding increments over an allotted pre-determined timeframe based on AFMP submissions.

Previously, the researchers and sponsors discussed that the project's scope could be expanded to include the addition of items to the list of those currently centrally funded across the DDG 51 class. However, for the purpose of maintaining congruence with the project's scope, the researchers determined that only those PRP items from the deck, aviation, and habitability areas would be included in the PRP list.

The draft PRP list was found to include items that did not match the criteria as set forth in the SURFUSP. The researchers removed these items to ensure every item on the potential PRP list fit the SURFSUP's criteria. Items such as garbage bags, brooms, soap and cleaners were omitted. "The dollar impact of replacement on ship's OPTAR [Operation Target Budget] should be the governing factor in deciding whether this type of control is warranted" (Commander Naval Surface Forces, 2006, pp. 7–6). Those items identified for removal from the draft PRP list can be included on what Supply Officers designate as Never-Out Items. Never-Out items are those items that are consumed routinely and have a low-dollar-per-item cost. These items should always be available and are, therefore, not subject to a phased replacement program. An example of Never-Out items and a Never-Out list are shown in Figure 2. Figure 2 shows that some of these items, like the trash bags, have a cost of less than one dollar for each single item contained in the box, which provides justification for keeping these off of a PRP list.

Item #	NIIN	Nomenclature	Unit \$	HL	RP	O/H QTY	U/I
001	00-530-3770	TOILET PAPER	\$ 13.63	1	0	1	BX
002	00-262-7178	PAPER TOWELS	\$ 18.45	4	0	1	BX
003	00-634-2410	CHEF'S CAP (PAPER)	\$ 49.94	18	6	6	BX
004	01-522-0828	HAND SANITIZER DISPENSER TYPE	\$ 70.81	10	2	0	BX
005	01-490-7365	HAND SANITIZER BOTTLE	\$ 50.65	10	2	0	BX
006	014940067	MAG FUSION SOAP	\$ 130.93	40	29	10	BX
007	00-137-6345	EAR PLUGS	\$ 23.89	10	5	0	BX
008	00-240-2559	SPONGES	\$ 12.41	5	3	4	PG
009	00-148-9666	RAGS	\$ 16.62	20	10	5	BE
010	01-175-5532	BAG - 33 GAL 33X40	\$ 22.00	15	4	6	BX
011	01-221-3237	BAG - 58 GAL 40X48	\$ 31.49	15	10	0	BX
012	00-299-8532	BAG OFFICE TRASH 20 x 40	\$ 13.36	15	10	0	BX

Figure 2. USS UNDERWAY (DDG XX) Never-Out List

The final effort during the PRP list developmental stage was to ensure that the list contained an ample amount of information about each item. The researchers assumed that a list that had limited or lacking information would create confusion for the end users and would not be well received on the ships in the class.

### 3. Validation Stage

During this stage of the PRP list generation, the categories for procurement source, priority level and quarterly cost amounts were added to the PRP list to give additional information to the potential user. Estimated service life information was added to the list to help identify when the items need to be phase replaced. Size and color information for the relevant items on the PRP list was also added to the draft list. A department column was also added to break the PRP items down into the three functional PRP areas. These functional areas were designated as “A-OD” for the Aviation / Flight Deck equipment areas, “OD” for the deck equipment area, and “HAB” for the habitability equipment area.

The researchers traveled to NAS Lemoore near Fresno, California, with the draft 150-item PRP list that resulted from the data collected during the previous stage. The purpose of this visit was to validate each item's Department of Defense stock system information using the Defense Logistics Agency (DLA) database FEDLOG. This database was used to verify the following information for parts on the PRP list: Nomenclature, National Item Identification Number (NIIN), Unit of Issue (U/I), Procurement Source, Unit Price, Size, and Color (Defense Logistics Agency, 2010a). During the validation of the list, it was discovered by the researchers that color and size information for some items could not be identified accurately in FEDLOG (Defense Logistics Agency, 2010a). Upon returning to Naval Postgraduate School, the researchers followed up on the remaining information that could not be validated in FEDLOG. The researchers were required to contact manufacturers Mustang Survival Gear and Whitehill Manufacturing for the additional information required on the life preservers and Mooring Lines, respectively.

In order to affect a final and thorough verification of the items included on the class-wide PRP list, the researchers compared and cross-referenced the information on the list with the COSAL. This was necessary because the COSAL is the authoritative list of all of the parts and supplies authorized by the Navy for use onboard its ships (Integrated Publishing, 2007). Some of the parts included in the COSAL are the complete list of parts required to operate and maintain the installed equipment as well such items as life preservers. Some of the criteria used when preparing each DDG's COSAL include components required for operational assignments, equipment repair tools, and items needed to conduct upkeep of the ship (Integrated Publishing, 2007).

Figure 3 is an example of the information from the COSAL that was used by these researchers during the validation and generation of the PRP list. This information was taken from the section of USS SAMPSON's (DDG 102) COSAL section pertaining to the Flight Deck Clothing and Personnel Equipment for Aviation Ships (Naval Supply Systems Command, 2010).

# ALLOWANCE EQUIPAGE LIST (AEL)

EQUIPMENT/COMPONENT NOMENCLATURE/CHARACTERISTICS				TECHNICAL DOCUMENT NUMBER	MANUAL		IDENTIFICATION NO.		DATE		PAGE								
FLIGHT DECK CLOTHING FOR AVIATION SHIPS					PLAN		2330075180		08/2010		5								
CHARACTERISTICS								ON BOARD ALLOWANCE TABLE											

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Figure 3. USS SAMPSON (DDG 102) Allowance Equipage List. (From: Naval Supply Systems Command, 2010).

The researchers cross-referenced the PRP list information after COSAL validation was complete with the TYCOM's Aviation Readiness Qualifications instruction manual, COMNAVSURFORINST 3700.1B and the Joint Publication Document for Helicopter Operations, JP3-04.1. The Joint Publication Manual 3-04.1 mandates every Navy ship that conducts Aviation Operations have at least a minimum number of items required to conduct safe flight operations at sea (1997). The researchers concluded that including some of these important safety items on the class-wide PRP list would assist the ship's PRP list management.

The final step in the list validation stage conducted by the researchers was use of DLA's online parts data search engine called webFLIS. This step was conducted to re-validate all relevant supply information on the PRP list. All information contained in the PRP list was consistent with the information that was found on webFLIS (Defense Logistics Agency, 2010b). This final step was conducted to provide complete certainty that the information contained on the class-wide PRP list is the most up-to-date and accessible information independent of what stock system database is used by the DDG Supply Officers. The final PRP list generated includes 193 items, of which some are differentiated simply by their color and size made necessary to meet mission requirements such as those of aviation operations (Commander Naval Surface Forces, 2007).

### **C. CMP DATA COLLECTION DISPARITY**

CMP data was unable to be used to conduct cross-reference analysis after the initial PRP list was generated. Further review of the data in CMP resulted in discarding this method of approach because financial data collected by the supply system of the Navy Surface Forces does not differentiate PRP items from the other Consumable items that are purchased, sold, or discarded at the depot (Commander Naval Surface Forces, 2010). The researchers were also unable to conduct meaningful analysis of the use of CMP class-wide because it was observed that usage of CMP for Consumable item reporting is inconsistent.

Figure 4 contains data from CMP on 31 of the DDG's in the class. As shown in the figure, the range for Consumable items reported in CMP is from zero to just under nine hundred. The number of reported items that was observed most frequently was actually zero. CMP data was used for only collection and verification of data contained in the COSAL due to CMP being unreliable for use as an authoritative example of self-identified PRP needs by each ship in the DDG 51 class.

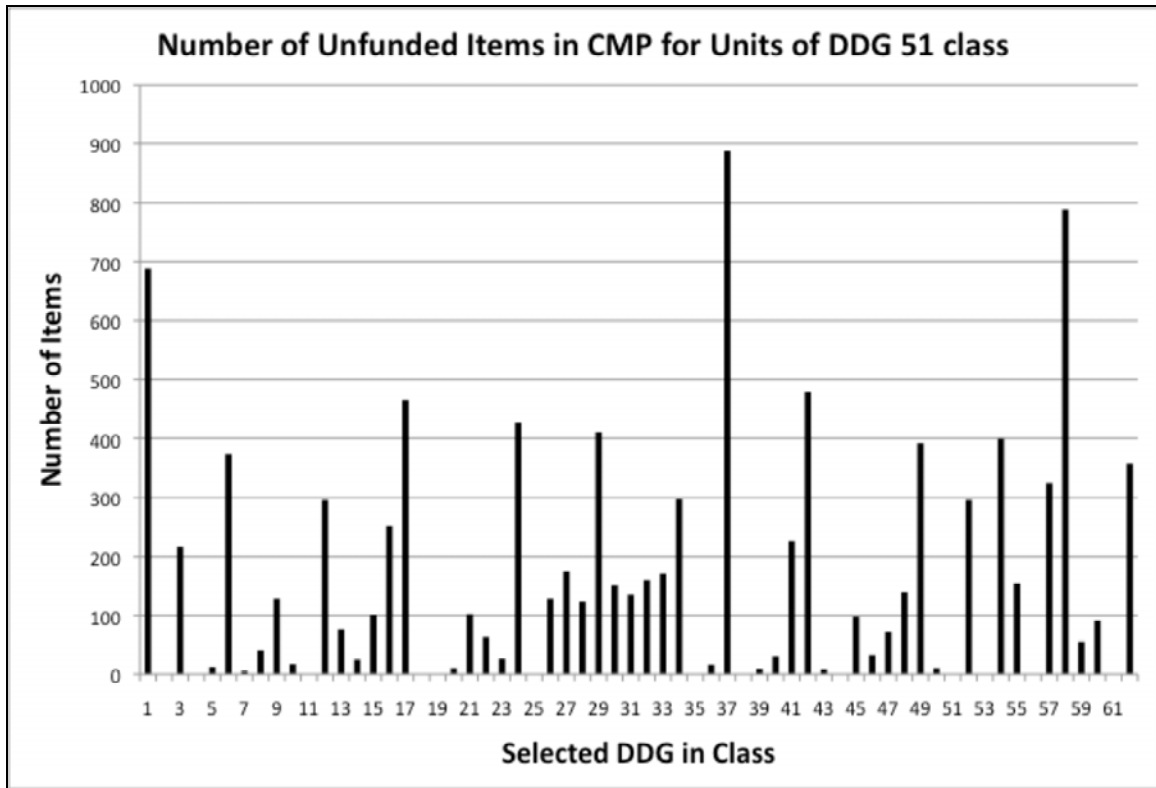


Figure 4. CMP Data collected for DDG 51 class on November 17, 2010

## IV. PRP LIST DESCRIPTION

### A. LIST OVERVIEW

Appendix B provides the PRP list for the deck, habitability, and aviation areas for the DDG 51 class of ships that has been produced for this project. There are 193 items that have been identified for inclusion on this list. Table 1 provides the descriptive characteristics that are used for column headers for the PRP list. It was decided to include the four quarterly amounts to order as well as their quarterly cost to increase this list's credibility. Subsequent sections provide detailed descriptions of the information contained in the list. These descriptions are broken down into function groups arranged according to similarity of the information. While all of the information in the list was selected for its usefulness, the researchers anticipate that the most useful information contained in the list to the individuals who will use this PRP list are the information about each item's federal catalog name (nomenclature), NIIN, quantity ordered (QTY), and how many to order per quarter (QTR 1–4).

Table 1. PRP list column headings

COLUMN A		COLUMN B	COLUMN C	COLUMN D	COLUMN E
NOMENCLATURE		SIZE	COLOR	NIIN	U/I
COLUMN F	COLUMN G	COLUMN H		COLUMN I	
DEPT	PRIORITY	PROCUREMENT SOURCE		ESTIMATED SERVICE LIFE	
COLUMN J	COLUMN K	COLUMN L	COLUMN M	COLUMN N	COLUMN O
PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4
COLUMN P	COLUMN Q	COLUMN R	COLUMN S	COLUMN T	COLUMN U
UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST

### B. NOMENCLATURE / SIZE / COLOR / NIIN / U/I

In the first information group of the list, the basic item identifiers give the potential user information to characterize the part for order and inventory management against other similar parts. The nomenclature in the list is the same name of the part or equipment that the user would find if they were looking it up in databases such as

FEDLOG or webFLIS. The size and color information are a reference to help maintain all of the required varieties of the particular PRP items required class-wide.

The NIIN is a nine-digit number of the format XX-XXX-XXXX that is assigned under the federal cataloging programs to each PRP item for use when ordering. For example, as seen in Appendix B, the NIIN for pillowcases (i.e., row 144) is 00-231-2373 (Defense Logistics Agency, 2010a). The unit of issue (U/I) is the two-letter alphabetical code indicating the physical description of what is ordered under each NIIN. In some cases a NIIN refers to a single item, i.e., “EA” for each, or can refer to multiple items, i.e., “DZ” for dozen items ordered under a single NIIN (Defense Logistics Agency, 2010a).

**C. DEPT / PRIORITY / PROCUREMENT SOURCE / ESTIMATED SERVICE LIFE**

These columns contain information that can be used by both the Department Heads and the Supply Officer to assign ordering priorities as well as the phased replacement period for the items on the list. The department (Dept) code is provided to help identify what department should be responsible for storing, maintaining, and managing the PRP parts and equipment. The Department Heads can use the priority column as a guideline when providing inputs to the Supply Officer for AFMP generation and PRP inventory management. These priorities allow the Supply Department guidance as to the importance of items on the list for use when money is given to or taken from the ship’s Consumable budget. The priority codes used in the list are “1” being the most important, through “3” being of the least importance to the requesting department.

The procurement source column provides the Supply Department information on what the source of supply is. This information is useful because it helps to alleviate any confusion that may arise during the ordering process. The most common sources of supply listed in FEDLOG for the PRP items in Appendix B are the Government Services Administration and DLA (Defense Logistics Agency, 2010a). Rack curtains are items on the PRP list that do not have a procurement source in either FEDLOG or webFLIS.

These items without procurement source information must be ordered using the Government Purchase Card (GPC) (Naval Supply Systems Command, 1997).

Estimated service life is a key component of the Phase Replacement Program on the DDGs because this information provides the schedule for phase replacement of these items. The estimated service life information is provided by the Supply databases and by the manufacturers of these items. For example, FEDLOG was used to provide the estimated service life of strobe lights of four years (i.e., row 10) (Defense Logistics Agency, 2010a).

**D. PERIODICITY / QTY / QTR 1 / QTR 2 / QTR 3 / QTR 4**

In these columns, order quantity and periodicity of PRP items are intertwined and are used as the basis for the information contained in the quarterly columns. For example, if the order periodicity is quarterly and the “Qty” column amount is 40, the recommendation on the list is to budget for ordering 10 each quarter. If an item has a periodicity other than “quarter”, the Quarter 1–4 columns are used as necessary to fit the correct period, i.e., only two quarters will be recommended for order an item with a semi-annual periodicity. Mooring lines are the one exception to this. The four hundred foot mooring lines (i.e., row 175) have a special periodicity named, “Multi-Annual” due to only requiring 2 reel assemblies every five to seven years.

**E. UNIT PRICE / QTR 1 COST / QTR 2 COST / QTR 3 COST / QTR 4 COST / ANNUAL COST**

In the last six columns the quarterly and annual costs of ordering the PRP items on the list are provided in this final group. The information is provided to serve as a baseline when conducting budgeting and AFMP generation for the ships. This information is deemed valuable because it provides a quick reference to be used when including PRP items in departmental and individual DDG budgets. The unit price is the dollar value established by the managing activity such as DLA.

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## **V. RECOMMENDATIONS FOR FURTHER RESEARCH**

There are two main areas of research that the authors suggest should follow this project. Those areas are the financial and practical effectiveness of the incorporation of this list into the current operating procedures for reporting and tracking of PRP items.

### **A. PRACTICAL**

The first research area recommended to follow this project is related to the question “How useful is having a Navy Surface Forces sponsored DDG 51 class PRP list to the actual Sailors on the DDG 51 class ships who are using the list?” As stated previously, if the list generated in the final submission of this project is difficult to implement or creates undue stress upon the DDG 51 ship personnel it is designed to help, it will be viewed as a failure. Additional research could be conducted through a multiple-method approach. These future researchers could conduct surveys directed at the Supply and Executive officers of every ship in the DDG 51 class of ships. The survey results could be tallied and submitted to the sponsors of the project as evidence of the practicality of the list generated by this project. The survey could check the desirability of having a regimented, class-wide PRP list as compared to the current ship-specific lists that are generated by each unit. The researchers could also be expected to conduct interviews at the ship level, Immediate Superior in Command, Afloat Training Group, and Naval Surface Forces with key personnel to get detailed perspectives from the personnel involved in the implementation, use, and inspection of a class-wide PRP list.

The other practical research area, while relevant, in no way diminishes the contribution that is already being provided by this project’s generation of a class-wide PRP list for the DDG 51 class. This other research could ask the question, “How relevant is just one class-wide PRP list for the class of ship that has three distinct variants of its hull?” Potential exists that one list will not suffice for all of the ships in the DDG 51 class. The ships in this class have three different variants, are based in a variety of geographic locations, and are therefore subjected to different weather patterns. There have been multiple adjustments to the construction of the hulls creating the three variants,

which these researchers consider sub-classes within the DDG 51 class of ships. The differences, in some cases, have the potential to be both operationally and physically significant enough to require the generation of a separate PRP list for each variant of ships within the DDG 51 class of ships.

## **B. FINANCIAL**

Further research could be conducted to provide an evaluation of the expected financial benefits from implementation of this list across the DDG 51 class of ships. When the determination is made that this PRP list for the DDG 51 class of ships is both practical to implement and financially worthwhile, the next step in the process of future research will be to improve the quality of the list. Improving the quality of a list whose existence provides a financial benefit to the Navy will have the effect of creating an even greater financial benefit because the list's impact will be expanded. Research into the financial impact of implementing a class-wide PRP list will be the most significant and the most sought after information that results following the implementation of the DDG 51 class PRP list. In today's fiscal environment, financial savings data can be used to support the implementation of an unpopular project. In the case of this PRP list for the DDG 51 class of ships, this data can be used to support the requirement by the Navy Surface Forces that each ship in the DDG 51 class implement this list.

## **VI. CONCLUSIONS**

A well organized, prioritized, and managed AFMP, which also contains the ship's PRP list, is required in the SURFSUP. The importance of this is to allow the Supply Officers assigned to ships in the DDG 51 and other classes to respond quickly to in-year increases or decreases to their budgeted allocations (Commander Naval Surface Forces, 2006). The lack of a well-managed PRP list within the ship's AFMP results in lost opportunities by the ships when extra funding becomes available throughout the year. Inclusion of the PRP items provided in this project's list in the AFMP of each ship in the DDG 51 class ensures that these lost opportunities are mitigated.

The PRP list generated by these researchers is designed with the intention of preventing any additional burden on the already overburdened current and future sailors of the DDG 51 class ships. This project assumes that it is neither feasible nor effective to construct a PRP list that encompasses all PRP items needed by every DDG in the Naval Surface Forces. The PRP list provided in this project is intended to be a "list of items to include at a minimum" for the deck, aviation, and habitability areas of a DDG. The researchers recognize that unique operational, inventory management, and financial requirements exist that need to be considered for each individual ship in the DDG 51 class. Items included on the list in Appendix B were selected based on their suitability across all ships in the DDG 51 class.

Generation of a list as expansive and inclusive as this one for the DDG 51 class of ships has the potential to provide cost savings Navy-wide. The quality of this list can be improved by conducting further analyses to ensure that the list is as accurate as possible to meet the needs of the Navy. If this project is deemed a success financially there is a very high likelihood that similar attempts will be made to generate standardized PRP lists across the other classes of Navy ships. Even though this was not the intention at this project's conception, it is expected that this project will provide a guide to future researchers of the process to follow when constructing a class-wide PRP list for the other ship classes.

As mentioned in Chapter V, future research may conclude that a class-wide PRP list is too general to serve the best interests of the Navy. Since there is no current class-wide list in existence, the value of the PRP list provided in Appendix B by these researchers for the DDG 51 class will not be undermined if future research does find evidence to support creation of intra-class PRP lists.

## APPENDIX A

Appendix A is the worksheet provided in the SURFSUP and discussed in the Background section as an example of the type of information used by the Department Heads when they compile their departmental PRP list. Their list will be submitted to the Supply Officer and become part of the ship's PRP list. This sheet contains information that assists the department heads in maintaining a comprehensive inventory management program for the PRP items under their purview so they can accurately report on the status of the current PRP items in their departmental inventory.

PHASED REPLACEMENT WORKSHEET			
_____ Department		Date: _____	
Fiscal Year _____			
Nomenclature _____			
NSN _____			
Unit Cost _____		Expected Service Life _____ years	
Allowance qty _____		Qty on hand _____	
Qty required for immediate replacement _____			
Additional quantity required for replacement during FY \$ _____			
Total replacement quantity required for this FY \$ _____			
Replacement Schedule:			
<u>QUANTITY</u>	UNIT COST	TOTAL COST	REQN NR
1st QTR _____	_____	_____	_____
2nd QTR _____	_____	_____	_____
3rd QTR _____	_____	_____	_____
4th QTR _____	_____	_____	_____
DEPARTMENT HEAD: _____			
(print)		(signature)	
-----			
SUPPLY OFFICER USE ONLY			
Mid-Year Phased Replacement Budget Call Information			
Unfunded (still required): QTY _____			
Total Cost \$ _____			

Figure 5. Phase Replacement Worksheet. (From: Commander Naval Surface Forces, 2006, pp. 7–43).

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## **APPENDIX B**

This appendix contains the PRP list that has been generated for the DDG 51 class. The list has also been provided to the project sponsors in electronic format for ease of dissemination to both future researchers on DDG 51 class PRP list managements and the Supply Officers of the ships in the DDG 51 class.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
	NOMENCLATURE	SIZE	COLOR	NUN	U/I	DEPT	PRIORITY	PROCUREMENT SOURCE	ESTIMATED SERVICE LIFE	PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4	UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST
1	BLADDER ASSY, LIFE PRESERVER	N/A	N/A	01-487-2926	EA	A-OD	1	DLA	3-YRS	QTR	40	10	10	10	10	\$ 23.63	\$ 236.30	\$ 236.30	\$ 236.30	\$ 236.30	\$ 945.20
2	CARTRIDGE, COMPRESSED GAS (CO2)	24g	N/A	01-487-2878	EA	A-OD	1	DLA	3-YRS	QTR	40	10	10	10	10	\$ 5.05	\$ 50.50	\$ 50.50	\$ 50.50	\$ 50.50	\$ 202.00
3	CHEM LIGHTS	5.625"	BLUE	01-178-5560	BX	A-OD	1	DLA	CONSUMABLE	QTR	20	5	5	5	5	\$ 12.31	\$ 61.55	\$ 61.55	\$ 61.55	\$ 61.55	\$ 246.20
4	CHEM LIGHTS	4"	ORANGE	01-282-7630	BX	A-OD	1	DLA	CONSUMABLE	QTR	12	3	3	3	3	\$ 100.73	\$ 302.19	\$ 302.19	\$ 302.19	\$ 302.19	\$ 1,208.76
5	CHEM LIGHTS	5.625"	GREEN	01-074-4229	BX	A-OD	1	DLA	CONSUMABLE	QTR	20	5	5	5	5	\$ 12.45	\$ 62.25	\$ 62.25	\$ 62.25	\$ 62.25	\$ 249.00
6	CHEM LIGHTS	6"	RED	01-178-5559	BX	A-OD	1	DLA	CONSUMABLE	QTR	20	5	5	5	5	\$ 15.25	\$ 76.25	\$ 76.25	\$ 76.25	\$ 76.25	\$ 305.00
7	CRANIAL PAD (BACK)	N/A	N/A	00-178-6830	EA	A-OD	1	DLA	3-YRS	QTR	20	5	5	5	5	\$ 3.87	\$ 19.35	\$ 19.35	\$ 19.35	\$ 19.35	\$ 77.40
8	CRANIAL PAD (FRONT)	N/A	N/A	00-178-6831	EA	A-OD	1	DLA	3-YRS	QTR	20	5	5	5	5	\$ 1.98	\$ 9.90	\$ 9.90	\$ 9.90	\$ 9.90	\$ 39.60
9	DISTRESS MARKER LITE ASSY (STROBE LIGHT)	N/A	N/A	01-487-2929	EA	A-OD	1	DLA	4-YRS	QTR	8	2	2	2	2	\$ 80.62	\$ 161.24	\$ 161.24	\$ 161.24	\$ 161.24	\$ 644.96
10	GOGGLES, SUN, WIND, AND DUST	UNIVERSAL	N/A	01-328-8268	PR	A-OD	1	DLA	3-YRS	QTR	16	4	4	4	4	\$ 21.98	\$ 87.92	\$ 87.92	\$ 87.92	\$ 87.92	\$ 351.68
11	HELMET ASSY, CRANIAL LINERS	6.75"	N/A	00-861-3527	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 15.25	\$ 15.25	\$ 15.25	\$ 15.25	\$ 15.25	\$ 61.00
12	HELMET ASSY, CRANIAL LINERS	6.75"	N/A	00-861-3531	EA	A-OD	1	DLA	4-YRS	QTR	20	5	5	5	5	\$ 15.25	\$ 76.25	\$ 76.25	\$ 76.25	\$ 76.25	\$ 305.00
13	HELMET ASSY, CRANIAL LINERS	7"	N/A	00-071-8785	EA	A-OD	1	DLA	4-YRS	QTR	12	3	3	3	3	\$ 15.25	\$ 45.75	\$ 45.75	\$ 45.75	\$ 45.75	\$ 183.00
14	HELMET ASSY, CRANIAL LINERS	7.25"	N/A	00-861-3530	EA	A-OD	1	DLA	4-YRS	QTR	20	5	5	5	5	\$ 15.25	\$ 76.25	\$ 76.25	\$ 76.25	\$ 76.25	\$ 305.00
15	HELMET ASSY, CRANIAL LINERS	7.5"	N/A	00-071-8787	EA	A-OD	1	DLA	4-YRS	QTR	8	2	2	2	2	\$ 15.25	\$ 30.50	\$ 30.50	\$ 30.50	\$ 30.50	\$ 122.00
16	JERSEY, CREW FLT DECK	LARGE	BLUE	00-914-0314	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
17	JERSEY, CREW FLT DECK	LARGE	BROWN	00-914-0318	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
18	JERSEY, CREW FLT DECK	LARGE	GREEN	00-914-0323	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
19	JERSEY, CREW FLT DECK	LARGE	PURPLE	00-914-0327	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
20	JERSEY, CREW FLT DECK	LARGE	RED	00-914-0331	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
21	JERSEY, CREW FLT DECK	LARGE	WHITE	00-914-0335	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
22	JERSEY, CREW FLT DECK	LARGE	YELLOW	00-914-0339	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
23	JERSEY, CREW FLT DECK	MEDIUM	BLUE	00-914-0313	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
24	JERSEY, CREW FLT DECK	MEDIUM	BROWN	00-914-0317	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
25	JERSEY, CREW FLT DECK	MEDIUM	GREEN	00-914-0322	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
26	JERSEY, CREW FLT DECK	MEDIUM	PURPLE	00-914-0326	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
27	JERSEY, CREW FLT DECK	MEDIUM	BLUE	00-914-9418	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
28	JERSEY, CREW FLT DECK	MEDIUM	WHITE	00-914-0334	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
29	JERSEY, CREW FLT DECK	MEDIUM	YELLOW	00-914-0338	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
30	JERSEY, CREW FLT DECK	SMALL	BLUE	00-914-0312	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
31	JERSEY, CREW FLT DECK	SMALL	BROWN	00-914-0316	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
32	JERSEY, CREW FLT DECK	SMALL	GREEN	00-914-0321	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
33	JERSEY, CREW FLT DECK	SMALL	PURPLE	00-914-0325	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
34	JERSEY, CREW FLT DECK	SMALL	RED	00-914-0329	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
35	JERSEY, CREW FLT DECK	SMALL	WHITE	00-914-0333	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
36	JERSEY, CREW FLT DECK	SMALL	YELLOW	00-914-0337	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
37	JERSEY, CREW FLT DECK	X-LARGE	BLUE	00-914-0315	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
38	JERSEY, CREW FLT DECK	X-LARGE	BROWN	00-914-0319	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
39	JERSEY, CREW FLT DECK	X-LARGE	GREEN	00-914-0324	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
40	JERSEY, CREW FLT DECK	X-LARGE	PURPLE	00-914-0328	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
	NOMENCLATURE	SIZE	COLOR	NIIN	U/I	DEPT	PRIORITY	PROCUREMENT SOURCE	ESTIMATED SERVICE LIFE	PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4	UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST
42	JERSEY, CREW FLT DECK	X-LARGE	RED	00-914-4143	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
43	JERSEY, CREW FLT DECK	X-LARGE	WHITE	00-914-0336	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
44	JERSEY, CREW FLT DECK	X-LARGE	YELLOW	00-914-0340	EA	A-OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 10.47	\$ 41.88
45	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	BLUE	01-487-3647	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
46	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	BROWN	01-487-3650	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
47	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	GREEN	01-487-3625	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
48	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	PURPLE	01-487-3655	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
49	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	RED	01-487-3619	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
50	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	WHITE	01-487-3300	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
51	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	LARGE	YELLOW	01-487-3652	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
52	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	BLUE	01-487-3210	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
53	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	BROWN	01-487-3239	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
54	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	GREEN	01-487-3206	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
55	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	PURPLE	01-487-3297	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
56	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	RED	01-487-3201	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
57	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	WHITE	01-487-3192	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
58	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	MEDIUM	YELLOW	01-487-3294	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
59	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	BLUE	01-487-2972	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
60	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	BROWN	01-487-2978	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
61	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	GREEN	01-487-2963	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
62	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	PURPLE	01-487-3190	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
63	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	RED	01-487-2950	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
64	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	WHITE	01-487-2940	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
65	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	SMALL	YELLOW	01-487-2980	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
66	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	BLUE	01-487-3663	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
	NOMENCLATURE	SIZE	COLOR	NIIN	U/I	DEPT	PRIORITY	PROCUREMENT SOURCE	ESTIMATED SERVICE LIFE	PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4	UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST
67	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	BROWN	01-487-3666	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
68	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	GREEN	01-487-3661	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
69	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	PURPLE	01-487-3669	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
70	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	RED	01-487-3659	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
71	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	WHITE	01-487-3657	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
72	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	X-LARGE	YELLOW	01-487-3667	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 210.32	\$ 841.28
73	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	BLUE	01-504-8278	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
74	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	BROWN	01-504-8272	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
75	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	GREEN	01-504-8280	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
76	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	PURPLE	01-504-8277	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
77	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	RED	01-504-8268	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
78	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	WHITE	01-504-8270	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 210.32	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 420.64
79	LIFE PRESERVER, COMPLETE VEST (MUSTANG)	XX-LARGE	YELLOW	01-504-8263	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 210.32	\$ -	\$ 210.32	\$ -	\$ 210.32	\$ 420.64
80	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	BLUE	01-487-3645	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
81	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	BROWN	01-487-3649	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
82	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	GREEN	01-487-3624	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
83	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	PURPLE	01-487-3654	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
84	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	RED	01-487-3618	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
85	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	WHITE	01-487-3299	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
86	LIFE PRESERVER, VEST ONLY (MUSTANG)	LARGE	YELLOW	01-487-3651	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
87	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	BLUE	01-487-3209	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
88	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	BROWN	01-487-3238	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
89	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	GREEN	01-487-3204	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
90	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	PURPLE	01-487-3296	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
91	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	RED	01-487-3198	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
92	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	WHITE	01-487-3191	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
93	LIFE PRESERVER, VEST ONLY (MUSTANG)	MEDIUM	YELLOW	01-487-3293	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
94	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	BLUE	01-487-2968	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
	NOMENCLATURE	SIZE	COLOR	NIIN	U/I	DEPT	PRIORITY	PROCUREMENT SOURCE	ESTIMATED SERVICE LIFE	PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4	UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST
95	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	BROWN	01-487-2977	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
96	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	GREEN	01-487-2961	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
97	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	PURPLE	01-487-3189	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
98	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	RED	01-487-2946	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
99	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	WHITE	01-487-2937	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
100	LIFE PRESERVER, VEST ONLY (MUSTANG)	SMALL	YELLOW	01-487-2979	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
101	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	BLUE	01-487-3662	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
102	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	BROWN	01-487-3665	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
103	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	GREEN	01-487-3660	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
104	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	PURPLE	01-487-3668	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
105	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	RED	01-487-3658	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
106	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	WHITE	01-487-3656	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
107	LIFE PRESERVER, VEST ONLY (MUSTANG)	X-LARGE	YELLOW	01-487-3664	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
108	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	BLUE	01-504-8253	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
109	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	BROWN	01-504-8250	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
110	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	GREEN	01-504-8254	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
111	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	PURPLE	01-504-8251	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
112	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	RED	01-504-8214	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
113	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	WHITE	01-504-8248	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 88.22	\$ 176.44
114	LIFE PRESERVER, VEST ONLY (MUSTANG)	XX-LARGE	YELLOW	01-504-8210	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 88.22	\$ 88.22	\$ -	\$ 88.22	\$ -	\$ 176.44
115	PADDLES, SIGNAL (UNREP- AMBER/GREEN)	N/A	AMBER/GRN	01-033-7519	EA	A-OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 47.58	\$ -	\$ 47.58	\$ -	\$ 47.58	\$ 95.16
116	PADDLES, SIGNAL (UNREP- RED/GREEN)	N/A	RED/GRN	01-036-1989	EA	A-OD	1	DLA	4-YRS	SEMI	2	1	0	1	0	\$ 47.20	\$ 47.20	\$ -	\$ 47.20	\$ -	\$ 94.40
117	PROTECTION, HEARING	N/A	N/A	00-759-3290	EA	A-OD	1	DLA	3-YRS	QTR	16	4	4	4	4	\$ 34.22	\$ 136.88	\$ 136.88	\$ 136.88	\$ 136.88	\$ 547.52
118	SHIELD (BACK), FLT DECK CREW HELO	N/A	BLUE	00-604-0263	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.01	\$ -	\$ 10.02	\$ -	\$ 10.02	\$ 20.04
119	SHIELD (BACK), FLT DECK CREW HELO	N/A	BROWN	00-178-6855	EA	A-OD	1	DLA	4-YRS	SEMI	4	2	0	2	0	\$ 5.01	\$ 10.02	\$ -	\$ 10.02	\$ -	\$ 20.04
120	SHIELD (BACK), FLT DECK CREW HELO	N/A	GREEN	00-608-4216	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.01	\$ -	\$ 10.02	\$ -	\$ 10.02	\$ 20.04
121	SHIELD (BACK), FLT DECK CREW HELO	N/A	PURPLE	00-611-0416	EA	A-OD	1	DLA	4-YRS	SEMI	4	2	0	2	0	\$ 5.01	\$ 10.02	\$ -	\$ 10.02	\$ -	\$ 20.04
122	SHIELD (BACK), FLT DECK CREW HELO	N/A	RED	00-610-4172	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.01	\$ -	\$ 10.02	\$ -	\$ 10.02	\$ 20.04
123	SHIELD (BACK), FLT DECK CREW HELO	N/A	WHITE	00-610-9526	EA	A-OD	1	DLA	4-YRS	SEMI	4	2	0	2	0	\$ 5.01	\$ 10.02	\$ -	\$ 10.02	\$ -	\$ 20.04
124	SHIELD (BACK), FLT DECK CREW HELO	N/A	YELLOW	00-610-7171	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.01	\$ -	\$ 10.02	\$ -	\$ 10.02	
125	SHIELD (FRONT), FLT DECK CREW HELO	N/A	BLUE	00-601-6894	EA	A-OD	1	DLA	4-YRS	QTR	4	2	0	2	0	\$ 5.10	\$ 10.20	\$ -	\$ 10.20	\$ -	\$ 20.40
126	SHIELD (FRONT), FLT DECK CREW HELO	N/A	BROWN	00-178-7013	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.10	\$ -	\$ 10.20	\$ -	\$ 10.20	\$ 20.40
127	SHIELD (FRONT), FLT DECK CREW HELO	N/A	GREEN	00-601-6903	EA	A-OD	1	DLA	4-YRS	SEMI	4	2	0	2	0	\$ 5.10	\$ 10.20	\$ -	\$ 10.20	\$ -	
128	SHIELD (FRONT), FLT DECK CREW HELO	N/A	PURPLE	00-602-7071	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.10	\$ -	\$ 10.20	\$ -	\$ 10.20	\$ 20.40
129	SHIELD (FRONT), FLT DECK CREW HELO	N/A	RED	00-601-6904	EA	A-OD	1	DLA	4-YRS	SEMI	4	2	0	2	0	\$ 5.10	\$ 10.20	\$ -	\$ 10.20	\$ -	\$ 20.40

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
	NOMENCLATURE	SIZE	COLOR	NIN	U/J	DEPT	PRIORITY	PROCUREMENT SOURCE	ESTIMATED SERVICE LIFE	PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4	UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST
130	SHIELD (FRONT), FLT DECK CREW HELO	N/A	WHITE	00-601-7056	EA	A-OD	1	DLA	4-YRS	SEMI	4	0	2	0	2	\$ 5.10	\$ -	\$ 10.20	\$ -	\$ 10.20	
131	SHIELD (FRONT), FLT DECK CREW HELO	N/A	YELLOW	00-601-6939	EA	A-OD	1	DLA	4-YRS	SEMI	4	2	0	2	0	\$ 5.10	\$ 10.20	\$ -	\$ 10.20	\$ -	\$ 20.40
132	STRAP, CHIN	N/A	N/A	01-016-8034	PG	A-OD	1	GSA	4-YRS	QTR	8	2	2	2	2	\$ 34.31	\$ 68.62	\$ 68.62	\$ 68.62	\$ 68.62	\$ 274.48
133	WAND, TAXI GUIDAN	N/A	N/A	00-862-3208	EA	A-OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 32.85	\$ 32.85	\$ 32.85	\$ 32.85	\$ 32.85	\$ 131.40
134	BLANKET, BED (WOOL)	N/A	GREY	00-282-7950	EA	HAB	1	DLA	5-YRS	QTR	100	25	25	25	25	\$ 32.00	\$ 800.00	\$ 800.00	\$ 800.00	\$ 800.00	\$ 3,200.00
135	CURTAINS, BUNK	CREW	N/A	OPEN PURCHASE	EA	HAB	1	LP / GPC	5-YRS	QTR	80	20	20	20	20	\$ 35.80	\$ 716.00	\$ 716.00	\$ 716.00	\$ 716.00	\$ 2,864.00
136	SHOWER, CURTAIN	N/A	N/A	00-205-1762	EA	HAB	1	GSA	CONSUMABLE	QTR	20	5	5	5	5	\$ 13.49	\$ 67.45	\$ 67.45	\$ 67.45	\$ 67.45	\$ 269.80
137	MAT, FLOOR (SHOWER)	N/A	N/A	00-634-1601	EA	HAB	1	GSA	CONSUMABLE	QTR	24	6	6	6	6	\$ 17.20	\$ 103.20	\$ 103.20	\$ 103.20	\$ 103.20	\$ 412.80
138	MATTRESSES, CPO/OFFICER, #4	76x28x5	N/A	01-498-0281	EA	HAB	1	DLA	4-YRS	QTR	10	3	2	3	2	\$ 298.33	\$ 894.99	\$ 596.66	\$ 894.99	\$ 596.66	\$ 2,983.30
139	MATTRESSES, MEDICAL/CPO/OFFICER, #5	80x28x5	N/A	01-498-0282	EA	HAB	1	DLA	4-YRS	ANNUAL	1	1	0	0	0	\$ 304.94	\$ 304.94	\$ -	\$ -	\$ -	\$ 304.94
140	MATTRESSES, GEN BERTHING, #2	76x26x4	N/A	01-498-0279	EA	HAB	1	DLA	4-YRS	QTR	60	15	15	15	15	\$ 260.62	\$ 3,909.30	\$ 3,909.30	\$ 3,909.30	\$ 3,909.30	\$15,637.20
141	MATTRESSES, GEN BERTHING, #3	80x26x4	N/A	01-498-0280	EA	HAB	1	DLA	4-YRS	QTR	12	3	3	3	3	\$ 263.08	\$ 789.24	\$ 789.24	\$ 789.24	\$ 789.24	\$ 3,156.96
142	MATTRESSES, XO/DH, #8	76x34x7	N/A	01-498-0306	EA	HAB	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 331.58	\$ 331.58	\$ 331.58	\$ 331.58	\$ 331.58	\$ 1,326.32
143	PILLOW, BED	N/A	N/A	00-205-3205	EA	HAB	1	GSA	4-YRS	QTR	80	20	20	20	20	\$ 14.84	\$ 296.80	\$ 296.80	\$ 296.80	\$ 296.80	\$ 1,187.20
144	PILLOWCASE	N/A	N/A	00-231-2373	EA	HAB	1	DLA	4-YRS	QTR	100	25	25	25	25	\$ 2.40	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 240.00
145	SHEET, BED	N/A	N/A	01-119-6415	DZ	HAB	1	GSA	4-YRS	QTR	12	3	3	3	3	\$ 65.68	\$ 197.04	\$ 197.04	\$ 197.04	\$ 197.04	\$ 788.16
146	AUTO INFLATOR, KIT (PILL TYPE)	N/A	N/A	01-470-9906	EA	OD	1	DLA	3-YRS	QTR	24	6	6	6	6	\$ 36.48	\$ 218.88	\$ 218.88	\$ 218.88	\$ 218.88	\$ 875.52
147	BAG, SHIP TO SHIP (SHOTLINE)	N/A	N/A	01-310-7796	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 40.70	\$ 40.70	\$ 40.70	\$ 40.70	\$ 40.70	\$ 162.80
148	BINOCULARS	N/A	N/A	01-224-2555	EA	OD	1	DLA	3-YRS	QTR	6	1	2	1	2	\$ 154.99	\$ 154.99	\$ 309.98	\$ 154.99	\$ 309.98	\$ 929.94
149	CHEMICAL PILLS, (FOR AUTO INFLATOR KITS)	N/A	N/A	01-470-9908	EA	OD	1	GSA	CONSUMABLE	QTR	20	5	5	5	5	\$ 13.06	\$ 65.30	\$ 65.30	\$ 65.30	\$ 65.30	\$ 261.20
150	CLAMP, HOSE	N/A	N/A	00-871-6729	EA	OD	1	DLA	4-YRS	QTR	12	3	3	3	3	\$ 0.14	\$ 0.42	\$ 0.42	\$ 0.42	\$ 0.42	\$ 1.68
151	CLAMP, WIRE ROPE, SADDLE 1"	1"	N/A	00-243-4444	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 7.83	\$ 7.83	\$ 7.83	\$ 7.83	\$ 7.83	\$ 31.32
152	CLAMP, WIRE ROPE, SADDLE 1/2"	0.5"	N/A	00-243-4440	EA	OD	1	DLA	3-YRS	QTR	8	2	2	2	2	\$ 4.71	\$ 9.42	\$ 9.42	\$ 9.42	\$ 9.42	\$ 37.68
153	CLAMP, WIRE ROPE, SADDLE 3/4"	0.75"	N/A	00-988-5637	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 14.46	\$ 14.46	\$ 14.46	\$ 14.46	\$ 14.46	\$ 57.84
154	CLAMP, WIRE ROPE, SADDLE 7/8"	0.875"	N/A	00-243-4443	EA	OD	1	DLA	3-YRS	QTR	8	2	2	2	2	\$ 4.87	\$ 9.74	\$ 9.74	\$ 9.74	\$ 9.74	\$ 38.96
155	COTTER PIN, ASSORTMENT	N/A	N/A	00-598-5916	AT	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 6.38	\$ 6.38	\$ 6.38	\$ 6.38	\$ 6.38	\$ 25.52
156	CUSHION, EAR	N/A	N/A	01-383-3725	PR	OD	1	DLA	3-YRS	QTR	20	5	5	5	5	\$ 6.99	\$ 34.95	\$ 34.95	\$ 34.95	\$ 34.95	\$ 139.80
157	DECK COVERINGS, LIGHT WEIGHT	N/A	N/A	00-205-0389	EA	OD	1	GSA	2-YRS	QTR	100	25	25	25	25	\$ 2.61	\$ 65.25	\$ 65.25	\$ 65.25	\$ 65.25	\$ 261.00
158	DRILL, CORDLESS	N/A	N/A	01-444-1662	EA	OD	1	GSA	3-YRS	SEMI	2	1	0	1	0	\$ 320.91	\$ 320.91	\$ -	\$ 320.91	\$ -	\$ 641.82
159	FIBER ROPE ASSEMBLY, SINGLE LEG	N/A	N/A	01-387-8795	EA	OD	1	DLA	3-YRS	QTR	8	2	2	2	2	\$ 40.42	\$ 80.84	\$ 80.84	\$ 80.84	\$ 80.84	\$ 323.36
160	GLOVES, LEATHER	UNIVERSAL	N/A	01-394-0215	PR	OD	1	DLA	3-YRS	QTR	16	4	4	4	4	\$ 14.10	\$ 56.40	\$ 56.40	\$ 56.40	\$ 56.40	\$ 225.60
161	GOGGLES, INDUSTRIAL (VENTILATED)	UNIVERSAL	N/A	00-052-3776	PR	OD	1	GSA	2-YRS	QTR	60	15	15	15	15	\$ 2.02	\$ 30.30	\$ 30.30	\$ 30.30	\$ 30.30	\$ 121.20
162	HARNES, SAFETY, INDUSTRIAL	UNIVERSAL	N/A	01-421-0859	EA	OD	1	DLA	3-YRS	QTR	6	1	2	1	2	\$ 88.39	\$ 88.39	\$ 176.78	\$ 88.39	\$ 176.78	\$ 530.34
163	HEADSET-CHEST SET, ELECTRICAL	UNIVERSAL	N/A	00-900-6401	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 481.44	\$ 481.44	\$ 481.44	\$ 481.44	\$ 481.44	\$ 1,925.76
164	HELMET, PHONE TALKER'S	UNIVERSAL	N/A	01-127-7337	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 229.20	\$ 229.20	\$ 229.20	\$ 229.20	\$ 229.20	\$ 916.80
165	JACKET, COLD WEATHER	LARGE	NAVY	01-495-0892	EA	OD	1	DLA	4-YRS	QTR	12	3	3	3	3	\$ 143.09	\$ 429.27	\$ 429.27	\$ 429.27	\$ 429.27	\$ 1,717.08
166	JACKET, COLD WEATHER	MEDIUM	NAVY	01-495-0890	EA	OD	1	DLA	4-YRS	QTR	8	2	2	2	2	\$ 143.09	\$ 286.18	\$ 286.18	\$ 286.18	\$ 286.18	\$ 1,144.72

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
	NOMENCLATURE	SIZE	COLOR	NIN	U/I	DEPT	PRIORITY	PROCUREMENT SOURCE	ESTIMATED SERVICE LIFE	PERIODICITY	QTY	QTR 1	QTR 2	QTR 3	QTR 4	UNIT PRICE	QTR 1 COST	QTR 2 COST	QTR 3 COST	QTR 4 COST	ANNUAL COST
167	JACKET, COLD WEATHER	SMALL	NAVY	01-495-0894	EA	OD	1	DLA	4-YRS	QTR	8	2	2	2	2	\$ 143.09	\$ 286.18	\$ 286.18	\$ 286.18	\$ 286.18	\$ 1,144.72
168	JACKET, COLD WEATHER	X-LARGE	NAVY	01-495-0893	EA	OD	1	DLA	4-YRS	QTR	4	1	1	1	1	\$ 143.09	\$ 143.09	\$ 143.09	\$ 143.09	\$ 143.09	\$ 572.36
169	JACKET, COLD WEATHER	XX-LARGE	NAVY	01-495-0894	EA	OD	1	DLA	4-YRS	SEMI	2	0	1	0	1	\$ 143.09	\$ -	\$ 143.09	\$ -	\$ 143.09	\$ 286.18
170	KNIFE, SCRAPPING	N/A	N/A	00-221-1538	EA	OD	1	GSA	3-YRS	QTR	12	3	3	3	3	\$ 2.64	\$ 7.92	\$ 7.92	\$ 7.92	\$ 7.92	\$ 31.68
171	LANYARD, SAFETY	N/A	N/A	00-022-2521	EA	OD	1	DLA	3-YRS	QTR	8	2	2	2	2	\$ 35.77	\$ 71.54	\$ 71.54	\$ 71.54	\$ 71.54	\$ 286.16
172	LEE STRAP	N/A	N/A	01-283-3362	EA	OD	1	ICP	3-YRS	QTR	60	15	15	15	15	\$ 21.00	\$ 315.00	\$ 315.00	\$ 315.00	\$ 315.00	\$ 1,260.00
173	LIGHT, STATION MARKING BOX	N/A	N/A	00-658-3045	EA	OD	1	DLA	3-YRS	SEMI	2	1	0	1	0	\$ 812.73	\$ 812.73	\$ -	\$ 812.73	\$ -	\$ 1,625.46
174	MOORING LINES, SPECTRA (WHITEHILL)	2.25"x200FT	N/A	01-572-8257	AY	OD	1	DLA	5-YRS	*SEMI	2	0	1	0	1	\$ 8,336.00	\$ -	\$ 8,336.00	\$ -	\$ 8,336.00	\$16,672.00
175	MOORING LINES, SPECTRA (WHITEHILL)	2.25"x400FT	N/A	01-572-8265	AY	OD	1	DLA	5-YRS	*MULTI-ANNUAL	1	1	0	0	0	\$11,250.00	\$ 11,250.00	\$ -	\$ -	\$ -	\$11,250.00
176	PAPER, ABRASIVE (SAND PAPER - 60 GRIT)	N/A	N/A	00-221-0885	PG	OD	1	GSA	CONSUMABLE	QTR	8	2	2	2	2	\$ 19.84	\$ 39.68	\$ 39.68	\$ 39.68	\$ 39.68	\$ 158.72
177	PAPER, ABRASIVE (SAND PAPER - 80 GRIT)	N/A	N/A	00-221-0884	PG	OD	1	GSA	CONSUMABLE	QTR	8	2	2	2	2	\$ 11.81	\$ 23.62	\$ 23.62	\$ 23.62	\$ 23.62	\$ 94.48
178	ROPE, FIBROUS	1.5"	N/A	00-231-2572	CL	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 381.51	\$ 381.51	\$ 381.51	\$ 381.51	\$ 381.51	\$ 1,526.04
179	ROPE, FIBROUS	2"	N/A	00-231-2581	CL	OD	1	DLA	3-YRS	SEMI	4	2	0	2	0	\$ 115.00	\$ 230.00	\$ -	\$ 230.00	\$ -	\$ 460.00
180	ROPE, FIBROUS (U/I CONTAINS 2250FT)	1"	N/A	00-641-8898	RL	OD	1	DLA	3-YRS	ANNUAL	1	1	0	0	0	\$ 318.13	\$ 318.13	\$ -	\$ -	\$ -	\$ 318.13
181	ROPE, LIFE LINE NYLON	2.5"	N/A	00-753-2888	RL	OD	1	DLA	3-YRS	SEMI	2	1	0	1	0	\$ 1,055.71	\$ 1,055.71	\$ -	\$ 1,055.71	\$ -	\$ 2,111.42
182	SAFETY CAN, GASOLINE	N/A	N/A	00-178-8286	EA	OD	1	DLA	3-YRS	QTR	2	1	0	1	0	\$ 82.14	\$ 82.14	\$ -	\$ 82.14	\$ -	\$ 164.28
183	SCALER, PNEUMATIC, PORTABLE (NEEDLE GUN)	N/A	N/A	01-317-2453	EA	OD	1	GSA	3-YRS	SEMI	2	1	0	1	0	\$ 418.50	\$ 418.50	\$ -	\$ 418.50	\$ -	\$ 837.00
184	SCRAPER, SHIP	N/A	N/A	00-240-3094	EA	OD	1	GSA	3-YRS	QTR	8	2	2	2	2	\$ 8.00	\$ 16.00	\$ 16.00	\$ 16.00	\$ 16.00	\$ 64.00
185	SEA MARKERS, DYE	N/A	N/A	00-270-9986	BX	OD	1	DLA	CONSUMABLE	QTR	4	1	1	1	1	\$ 96.11	\$ 96.11	\$ 96.11	\$ 96.11	\$ 96.11	\$ 384.44
186	SNAP HOOK	5"	N/A	00-291-3543	EA	OD	1	DLA	4-YRS	QTR	12	3	3	3	3	\$ 9.99	\$ 9.99	\$ 9.99	\$ 9.99	\$ 9.99	\$ 39.96
187	SNAP HOOK	6.5"	N/A	00-200-8823	EA	OD	1	DLA	4-YRS	QTR	8	2	2	2	2	\$ 22.73	\$ 45.46	\$ 45.46	\$ 45.46	\$ 45.46	\$ 181.84
188	SPRAY GUN, PAINT	N/A	N/A	01-416-3284	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 214.20	\$ 214.20	\$ 214.20	\$ 214.20	\$ 214.20	\$ 856.80
189	STENCIL SET, MARKING	N/A	N/A	00-298-7044	SE	OD	1	GSA	CONSUMABLE	ANNUAL	2	2	0	0	0	\$ 21.57	\$ 43.14	\$ -	\$ -	\$ -	\$ 43.14
190	TAPE, MEASURING	N/A	N/A	00-287-3335	EA	OD	1	GSA	4-YRS	QTR	4	1	1	1	1	\$ 9.09	\$ 9.09	\$ 9.09	\$ 9.09	\$ 9.09	\$ 36.36
191	TAPE, PRESSURE (U/I CONTAINS 60YD)	N/A	N/A	00-266-6710	RO	OD	1	GSA	CONSUMABLE	QTR	8	2	2	2	2	\$ 3.99	\$ 7.98	\$ 7.98	\$ 7.98	\$ 7.98	\$ 31.92
192	TAPE, REFLECTIVE (U/I CONTAINS 50YDS)	N/A	N/A	00-656-1494	RO	OD	1	GSA	CONSUMABLE	ANNUAL	1	1	0	0	0	\$ 25.50	\$ 25.50	\$ -	\$ -	\$ -	\$ 25.50
193	TWINE, FIBROUS (BLK)	N/A	N/A	00-202-1924	SL	OD	1	DLA	4-YRS	QTR	8	2	2	2	2	\$ 4.35	\$ 8.70	\$ 8.70	\$ 8.70	\$ 8.70	\$ 34.80
194	WHISTLE, DUAL TONE	N/A	N/A	01-278-6982	EA	OD	1	DLA	3-YRS	QTR	4	1	1	1	1	\$ 2.25	\$ 2.25	\$ 2.25	\$ 2.25	\$ 2.25	\$ 9.00
195	TOTAL																\$ 34,981.66	\$ 28,666.40	\$ 23,039.95	\$ 28,666.40	\$ 115,293.57

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